

$$U := 6.4 \text{ kV} \quad \omega := 2 \cdot \pi \cdot 50 \text{ Hz} \quad R := 8 + 36.5 \text{ ohm}$$

$$X_{Td} := 0.12 \cdot \frac{U^2}{10} \cdot 1j \quad X_{Td} = 0.492i \text{ ohm} \quad X_{To} := X_{Td}$$

$$X_{Fd} := \frac{U^2}{692} \cdot 1j \quad X_{Fd} = 0.059i \text{ ohm} \quad \text{S.Vazquez Pccmax} = 692 \text{ MVA}$$

Cable 30 kV 1x500 Al de Santiago Vazquez hasta E23:

$$Z_{Ld30} := (0.082 + 0.108i) \cdot (4.055 + 10.843) \quad Z_{Ld30} = 1.222 + 1.609i \text{ ohm}$$

$$Z_{Ld} := Z_{Ld30} \cdot \left(\frac{6.4}{31.5} \right)^2 \quad Z_{Ld} = 0.05 + 0.066i$$

Corriente maxima de cortocircuito F-Tierra :

$$I_{CCFTmax} := \frac{3 \cdot \left(\frac{U}{\sqrt{3}} \right)}{(X_{Fd} + Z_{Ld} + X_{Td}) \cdot 2 + X_{To} + 3 \cdot R} \quad |I_{CCFTmax}| = 0.083 \text{ kA}$$

Corriente maxima de cortocircuito 3-F :

$$I_{CC3F} := \frac{\frac{U}{\sqrt{3}}}{X_{Fd} + Z_{Ld} + X_{Td}} \quad |I_{CC3F}| = 5.968 \text{ kA}$$

$$L_{arco} := 0.8 \text{ m}$$

$$R_{arco} := \frac{28707 \cdot L_{arco}}{5968^{1.4}} \quad R_{arco} = 0.119 \text{ ohm, Formula de Warrington}$$

$$R_{arco_estrell} := \frac{2}{3} \cdot R_{arco} \quad I_{CC3F} := \frac{\frac{U}{\sqrt{3}}}{X_{Fd} + Z_{Ld} + X_{Td} + R_{arco_estrell}} \quad |I_{CC3F}| = 5.86 \text{ kA}$$